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EXAMINER

TRUONG, THANH K

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JOHN COOGAN, JUSSI HEIKKOLA, and SIMO SANERMA

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Appeal 2009-3305  
Application 09/857,688  
Technology Center 3700

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Decided<sup>1</sup>: April 21, 2009

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Before JENNIFER D. BAHR, JOHN C. KERINS, and MICHAEL W.  
O'NEILL, *Administrative Patent Judges*.

O'NEILL, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

## STATEMENT OF THE CASE

John Coogan et al. (Appellants) seek our review under 35 U.S.C. § 134 of the final rejection of claims 15-24, 27-31, 33-35, and 37. Claims 25, 26, and 32 were canceled prior to the final rejection. Claim 36 was canceled after the final rejection. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

## SUMMARY OF DECISION

We AFFIRM-IN-PART.

## THE INVENTION

The claimed invention is to a method and apparatus for correcting positioning errors in rock drilling. Spec. para. 0001.

Claims 19 and 23, reproduced below, are representative of the subject matter on appeal.

19. Rock drilling apparatus comprising a carrier, a boom having a first end attached to the carrier and turnable about respective joints in relation to the carrier, a rock drill attached turnable to the other end of the boom, joint sensors indicating the positions of the boom joints, and control devices for controlling the boom for movement to a drilling position for drilling a hole, the apparatus further comprising:

a memory device for storing a first set of deviations obtained by turning the boom through incremental turning angles about a first joint axis of the joints from a reference position to predetermined angularly spaced intervals about said first joint axis of the joints, and measuring using a movement sensor for each such interval a

deviation of the boom position from a desired position, and

a calculating device operable during a drilling operation for using the stored first set of deviations as correction values for locating the boom in the desired positions corresponding to the respective intervals about the first joint axis.

23. A method for correcting positioning errors in a rock drilling rig,

the rock drilling rig comprising:

a boom attached at one end to a carrier and being rotatable in relation to the carrier about a plurality of joints;

a rock drill being turnably mounted to the other end of the boom; and control devices for controlling the boom through various positions until the boom is set in a drilling position for drilling a hole;

wherein a deviation of the boom's drilling position is measured from a calculated theoretical position of where the boom should be located for drilling, and the boom's drilling position is corrected on the basis of the measured deviation, the method comprising the steps of:

storing in memory, a set of deviations obtained by turning the boom through the various positions and measuring, at predetermined angular intervals about at least one joint, the deviation of the boom's position from a calculated theoretical position at each interval, and

using the set of stored deviations to correct the drilling position of the boom relative to the at least one joint.

### THE REJECTION

The following Examiner's rejection is before us for review:

Claims 15-24, 27-31, 33-35 and 37 are rejected under 35 U.S.C. § 102(b) as being anticipated by Rinnemaa (U.S. Pat. No. 5,383,524, issued Jan. 24, 1995).

The Appellants solely argue independent claims 15, 19, 23, and 34. The Appellants state that these claims are being argued together. App. Br. 7. Claims 15 and 23 are directed to methods. Claims 19 and 34 are directed to apparatuses. We select claim 23 as the representative claim for the group of method claims rejected as being anticipated by Rinnemaa. We select claim 19 as the representative claim for the group of apparatus claims rejected as being anticipated by Rinnemaa.

### ISSUES

The Appellants contend that the Examiner erred in rejecting apparatus claim 19 because “claim 19 recites a memory device for storing deviations obtained by turning the boom through incremental [angles], and measuring the deviations, and a calculating device operable during a drilling operation for using the stored deviations as correction values.” App. Br. 7-8 (underlining in original).

The Appellants contend that the Examiner erred in rejecting method claim 23 because claim 23 recites “the steps of storing deviations obtained by turning the boom and measuring the deviations, and using the stored deviations to correct the drilling position of the boom.” App. Br. 8.

For both the method and apparatus claims, the Appellants argue that Rinnemaa's invention focuses on correcting for geometry and not for the

irregularities within mechanical components, and that Rinnemaa does not store nor measure deviations, but calculates the deviations and stores the carrier's inclination into a memory. App. Br. 8-10. Replying to the Answer, the Appellants contend that "the Examiner is relying on 'inherency' to show features of the claimed invention," and the Appellants have not relied on specific uses to distinguish the invention from Rinnemaa. Reply Br. 1-5.

The issues before us are as follows:

1) Have the Appellants shown that the Examiner erred in finding that Rinnemaa discloses: A) a memory device for storing deviations obtained by turning the boom through incremental angles, and B) a calculating device operable during a drilling operation for using the stored deviations as correction values?

2) Have the Appellants shown that the Examiner erred in finding that Rinnemaa discloses the steps of: A) storing deviations obtained by turning the boom and measuring the deviations, and B) using the stored deviations to correct the drilling position of the boom?

### FINDINGS OF FACT

We find that the following enumerated findings of fact are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. Rinnemaa discloses both a method and rock drilling equipment for measuring the angle of inclination of the feed beam based on reading from two orthogonally positioned gravity-operated sensors, and positioning the drill rod into the desired drilling direction by adjusting

the feed beam's inclination by the values obtained from the sensors in order to properly align the drill rod with the hole to be drilled.

Rinnemaa, col. 1, ll. 7-31.

2. Rinnemaa discloses the rock drilling equipment schematically in figure 5. Rinnemaa discloses that feed beam angle sensors 7x and 7y, carrier gravity-operated angle sensors 9x and 9y, boom joint sensors 11, and drill rod positional sensors 12 are all connected to a calculator unit 13. Rinnemaa discloses that the distances between the boom joints and other geometrical data pertaining to the boom's construction "are applied to the calculator unit in advance so that the calculator unit is able to calculate the required information on the basis of the position and angle data provided by the sensors...."

Rinnemaa, col. 6, ll. 52-55.

3. In lieu of separate sensors 9x and 9y, Rinnemaa discloses that when the boom and feed beam are in fixed positions, the inclination of the carrier can be obtained directly from the feed beam's inclination sensors and the values can then be set into the memory of the calculator unit. As such, the correction calculations to position the feed beam and boom are made based on the inclination values stored in memory. Rinnemaa, col. 7, ll. 50-59.

## PRINCIPLES OF LAW

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987). It is not necessary that the reference teach what the

subject application teaches, but only that the claim read on something disclosed in the reference, i.e., that all of the limitations in the claim be found in or fully met by the reference. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772 (Fed. Cir. 1983). However, “[i]nherent anticipation requires that the missing descriptive material is ‘necessarily present,’ not merely probably or possibly present, in the prior art.” *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295 (Fed. Cir. 2002) (quoting *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999)).

It is well settled that apparatus claims must distinguish over a prior art apparatus by the structure defined by the claims, and not by a process or function performed by the apparatus. A prior art apparatus having the same structure as a claimed apparatus renders a claimed apparatus unpatentable under § 102 as long as it is capable of performing the claimed process or function. *In re Yanush*, 477 F.2d 958, 959 (CCPA 1973); *Ex Parte Masham*, 2 USPQ2d 1647, 1648 (BPAI 1987). As such, “expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim.” *Ex parte Thibault*, 164 USPQ 666, 667 (BPAI 1969). Furthermore, “inclusion of the material or article worked upon by a structure being claimed does not impart patentability to the claims.” *In re Otto*, 312 F.2d 937, 939 (CCPA 1963).

## ANALYSIS

### *Issue (1)*



Rinnemaa discloses both a memory device and a calculator device, and both are used during drilling operations (Facts 2 and 3). The data that is stored within the memory device is of no significance in determining patentability. Accordingly, we sustain the Examiner's rejection of claim 19 as being anticipated by Rinnemaa.

*Issue (2)*

We do not sustain the Examiner's rejection of the method claims because the Examiner has not provided a sound basis in technical reasoning or fact to show that the steps of storing deviations obtained by turning the boom, measuring the deviations, and using the stored deviations to correct the drilling position of the boom, necessarily flow from the disclosure of Rinnemaa. Rinnemaa's operation for correcting the drill rod's position could easily be done without storing any deviation values.

CONCLUSIONS

The Appellants have not shown that the Examiner erred in finding that Rinnemaa discloses: A) a memory device for storing deviations obtained by turning the boom through incremental angles, and B) a calculating device operable during a drilling operation for using the stored deviations as correction values.

The Appellants have shown that the Examiner erred in finding that Rinnemaa discloses the steps of: A) storing deviations obtained by turning the boom and measuring the deviations, and B) using the stored deviations to correct the drilling position of the boom.

DECISION

The Examiner's decision to reject claims 15-18, 23, 24, 27-31, and 33 as anticipated by Rinnemaa is reversed.

The Examiner's decision to reject claims 19-22, 34, 35, and 37 as anticipated by Rinnemaa is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED-IN-PART

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